



SPIRIT

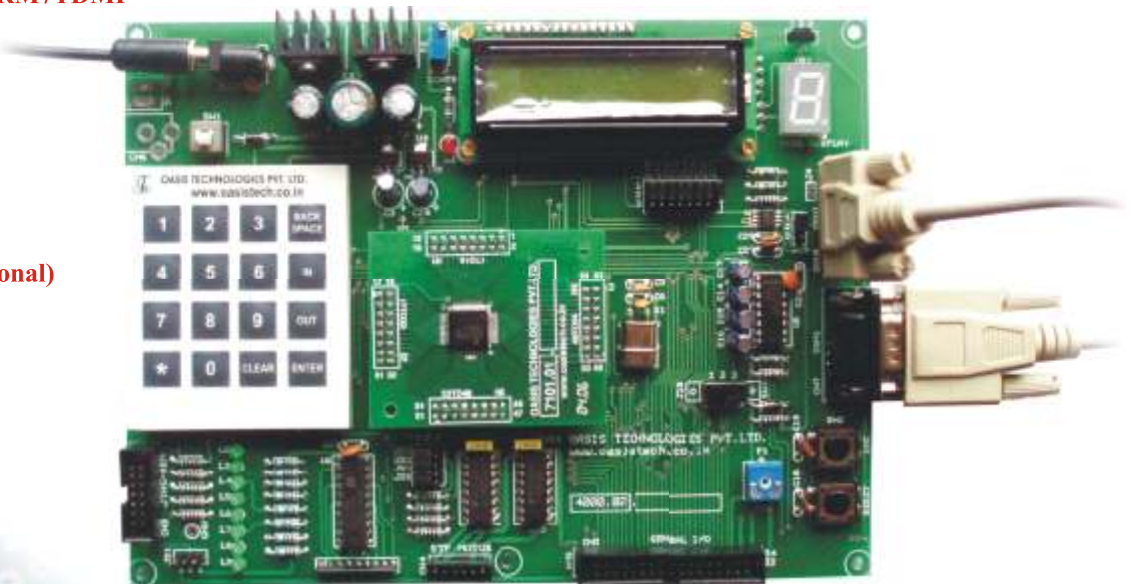
ARM7 Single Board Computer

Spirit is an entry level ARM7 reference platform, which is supported with on-board integrated peripherals. Spirit's features bring out enough challenges for those who wish to understand the ARM7 processor technology.

The supporting peripherals provide a unique opportunity for gaining thorough understanding about various features of the on-board processor.

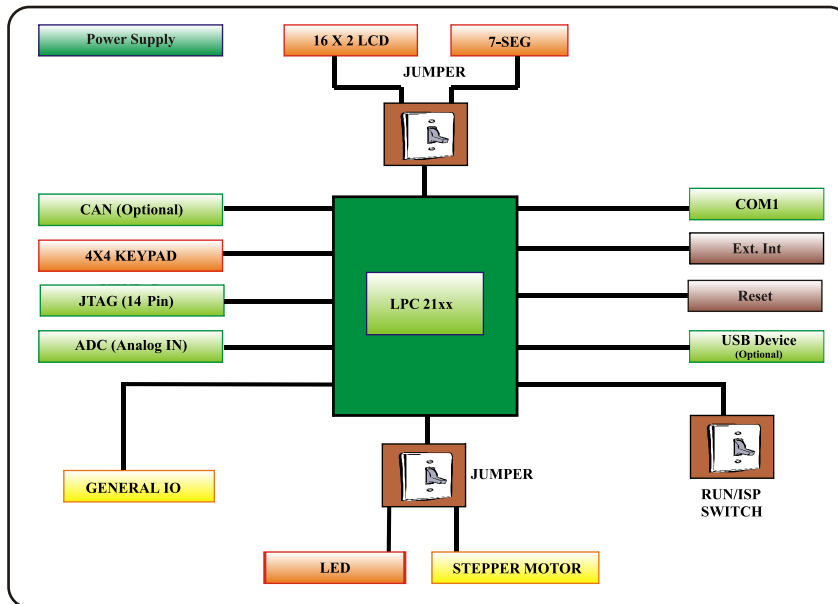
Spirit board highlights

- Supports architecture ARM7TDMI
- NXP (Philips) LPC21xx, 32 bit ARM controller
- Stepper motor driver
- USB device (optional)
- CAN Bus interface (optional)
- GPIO Headers
- JTAG Header
- RS232 based serial ports





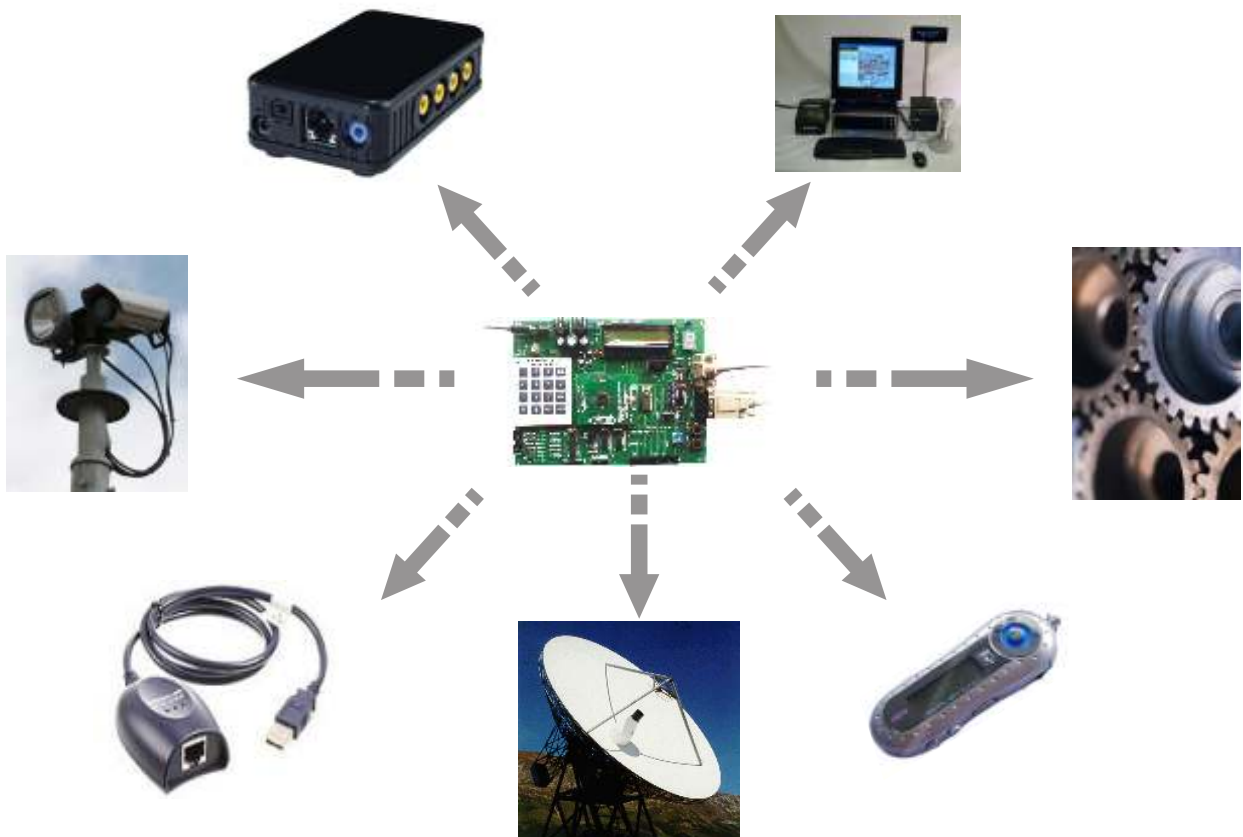
Architecture Diagram



SPIRIT board application domains

The power of ARM7 processor coupled with the on-board integrated peripherals, is challenging enough for those seeking to understand and implement the ARM7 processor-based application across domains. Some of the domains in which it can be used are as follows:

- Learning
- Consumer appliance
- Industrial control systems
- Robotics





Why SPIRIT?

Entry Level ARM7 Reference Platform

Spirit board is an entry level ARM7 reference platform specially designed for individuals who wish to explore the various features of ARM7 processor technology.

Highly Integrated Peripherals

The various on-board peripherals provide you the opportunity to stretch the ARM7 processor capabilities to its full potential.

Low Cost with High Efficiency

Spirit board offers the combined benefits of low cost and high efficiency. So, users can explore the ARM7 processor capabilities without having to restrict themselves to a constrained budget.

Intuitive Development Environment

The board is supplemented with Triton IDE Starter Edition from Oasis Technologies which combines the features of project management, make facilities, source code editing, program debugging and so on.

There is an in-built support in this IDE for FreeRTOS which is packaged with the Starter Edition. The Triton development platform is easy-to-use and enables you to expedite your embedded software development process.

Comprehensive User Documentation

The user guide offers clarification where and when you need it, right from the point of where you get started, upto the installations that are required for you to develop embedded applications. The documentation includes various sample programs that bring out the capabilities of the board.

SPIRIT board specifications:

Processor	ARM7TDMI
Flash	256KB/512KB, 32bit wide
SRAM	16KB/32KB, 32 bit wide
Serial	1 X RS232
Expansion	1 X 34 Pin headers
Dimension	205mm X 155mm
Temperature	0 °C/70°C

SPIRIT board kit contents:

1.Hardware:

- Oasis Spirit board.
- Power supply adaptor(SMPS)
- 9-pin D-shell serial cable
- USB cable (optional)

2.Software & documentation (CD-ROM contents)

- Triton IDE (Integrated Development Environment) Starter Edition
- Triton IDE Installation guide
- Sample code for ARM & RTOS programming.
- Documentation including data sheets and the ARM user manual.
- Spirit board User Manual

SPIRIT board Features:

- NXP (Philips) LPC21xx ARM7 based 32 bit
- On board external clock frequency 12 MHz
- GPIO Expansion header
- Expansion header for SPI and I2C bus.
- Expansion header for External interrupt
- Expansion header for DAC
- Expansion header to drive stepper motor
- On board ADC pot for simulation Analog signal
- Debugging header with JTAG interface(14 Pin)
- 8 User programmable LEDs
- Push button for simulating an external interrupt.
- Slide switch to select ISP/ RUN mode.
- CAN Bus interface(optional) variant dependant
- USB Device side (optional) variant dependant
- 1 X UART for programming and debugging
- 4 X 4 matrix keypad
- 16 X 2 LCD module
- 7 Seg. display
- For Int. RTC battery back-up and crystal 32.768KHz variant dependant

SPIRIT board variants

In order to bring out the features of flexibility, in the process of embedded development and at the same time keeping in mind the cost effectiveness of the solution, the SPIRIT board comes in various flavors. The supported variants are listed below.

Sr. No.	Variants	Unique Features
1	Spirit- BX NXP(Philips) LPC2138	512K Flash, 32K RAM, DAC, RTOS support:µcOS-II and free RTOS
2	Spirit- CX NXP(Philips) LPC2148	512K Flash, 32K RAM, DAC, USB Device, RTOS support: µcOS-II and free RTOS
3	Spirit- DX NXP(Philips) LPC2129	256K Flash, 16K RAM, CAN BUS, RTOS support: µcOS-II



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Oasis Technologies Pvt. Ltd. is a leading provider of embedded technology solutions. Our mission is to provide quality and cost effective embedded systems solutions which helps our customers to expedite their design and development process and reduces time to market.